

July 6, 1935

## Natural Reproduction of Ponderosa Pine

### Subproject - Special Seed Tree Study.

Purpose: To measure the 1934 cone crop and the number and distribution of 1935 seedlings produced by isolated seed trees of various sizes and classes.

Scope: The proposed short-time study is a minor phase of the general study of ponderosa pine seed production. Taken alone it can not give full or final answers to all the questions involved, but may give some immediate results on effective seeding capacity of certain types of trees, and will materially supplement the data obtained in more extensive and continued observations later.

The study proposes using 1935 seedlings as a measure of relative seed production and particularly range of seed distribution from selected trees. It is recognized that because of the number of factors affecting reproduction this may not be a true index, but the relatively good seedling crop of 1935 may not be equalled for several years, so it is believed that a limited amount of work on this basis is justified.

### Procedure:

1. In the Pine Creek and Thorn Creek selectively cut areas, select trees that are of potential seed-bearing size & which are isolated from other seed-bearers (over 200 feet distant). Attempt to obtain a wide range of sizes, tree classes, and crown sizes.

2. For each tree chosen for study, record:

- (1) D.B.H.
- (2) Total Height.
- (3) Dunning tree class.
- (4) Economic tree class.
- (5) Crown length.
- (6) Crown width.
- (7) Crown density.
- (8) Number 1934 cones (on ground or tree).

3. The seeding area under and near the tree (about 1 chain radius) will be described under the following headings:

- (1) Aspect - nearest octant.
- (2) Slope - nearest 5 or 10%.
- (3) Undergrowth
  0. Little or none (density less than 5%)
  1. Brush
  2. Reproduction - seedlings or saplings.
  3. " - poles.
- (4) Ground cover
  0. Little or none (density less than 5%)
  1. Grass
  2. Weeds.



## (2) Soil

1. Gravelly sandy loam
2. Sandy loam
3. Loam.

4. Seedlings will be noted on a diagrammatic sketch and tally form to show approximate direction and distance from tree. The exact distance need not be measured but each seedling should be plotted or tallied within its proper "zone", as defined by units of 20 links radial distance from the tree.

An attempt will be made to find and record all seedlings within 60 (?) links radius of the tree. Beyond that a temporary transect will be run out in each cardinal direction for 3 chains (farther if seedlings are still found at that distance). The transect will be 10 links wide (5 links on each side of center line), and seedlings will be tallied by 20-link units of distance from the tree.

On the Thorn Creek area it may be desirable to note all subsequent seedlings (1930 or later), distinguishing them from 1-year olds by symbol.

An arrow on the sketch will indicate direction of slope.

5. If a map of the general area is available (as on Pine Creek), note the approximate tree locations on same, estimating distances and directions from map features.

6. Photographs of typical seed trees should be taken.

As this part of the reproduction study will not attempt to yield detailed data on location of seedlings with respect to cover, soil, etc., these items ~~will~~ need be noted in only a general way as a possible aid in explaining the lack or abundance of seedlings where seed trees are otherwise comparable. It would be desirable to eliminate these variables, but as this is impossible, the aim will be to make them as uniform as possible. Hence places with very dense brush or grass cover, very thin soil, stream bottoms, etc. should be avoided.

Time and Personnel: The study should be made as soon as possible, before too many 1935 seedlings have died. (Germination for this year is doubtless now complete.) The time of two men for about one week may be devoted to the field work. Tentatively the period July 11-16 is set up for the job.

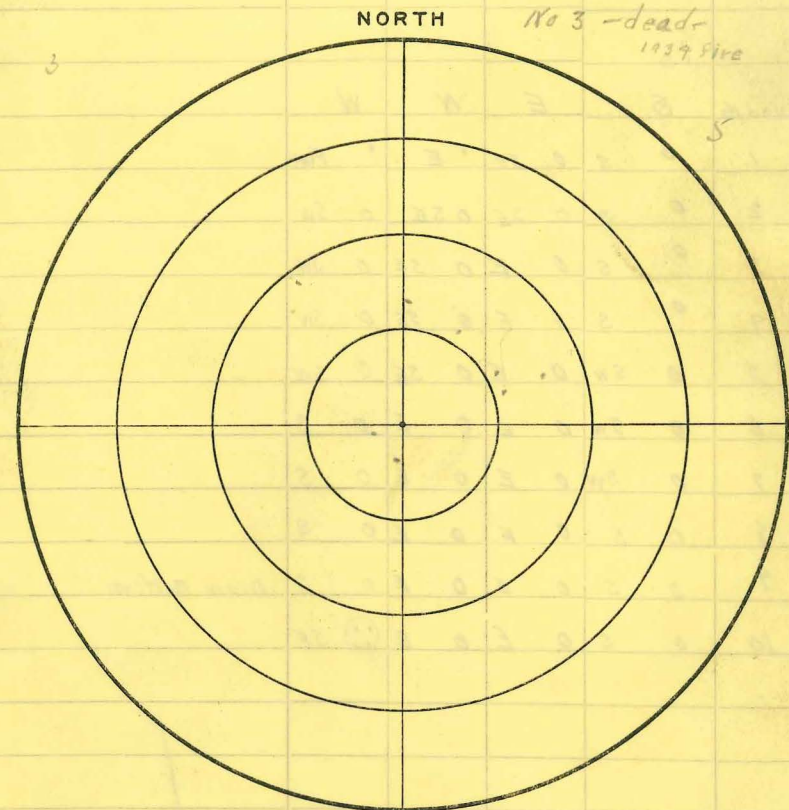
Compilation and Report: Compilation will consist of a relatively simple summary of recorded data, with appropriate tabular or graphical comparisons. A brief report will be prepared as soon as time permits, not later than winter of 1935-6. The results will form a part of the larger reproduction study, a comprehensive report on which may not be made for several years.

E. L. Mowat  
Junior Forester.



# INDIVIDUAL TREE GROWTH STUDY

FOREST Elk Cr. Burn NAME                       
 TYPE Pp DATE 7/20/35  
 SITE                      SECTION                      TWP.                       
 SPECIES Pp RANGE                      SCALE FT. = 1"



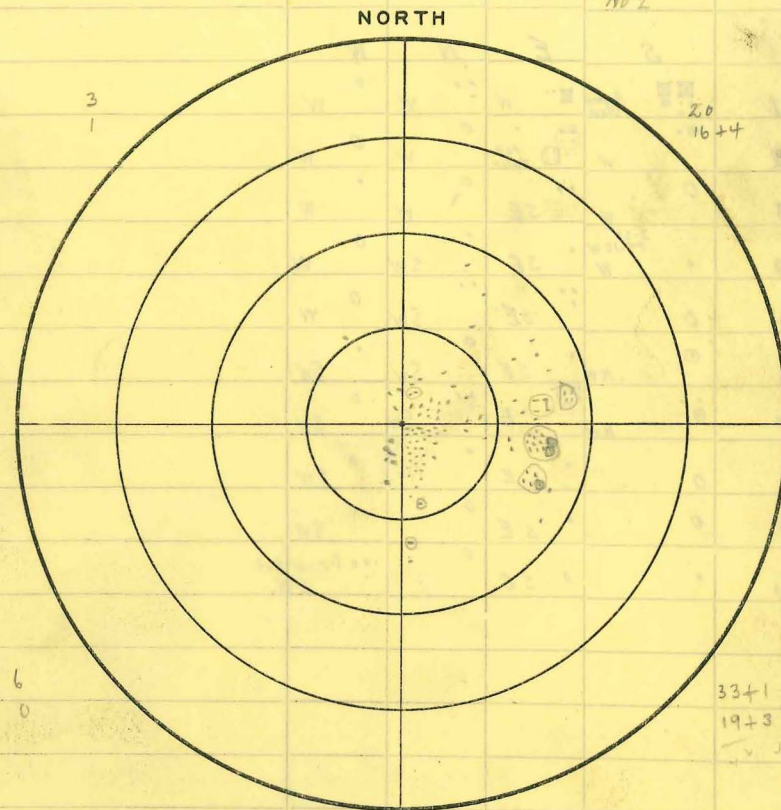
DATA ON TREE STUDIED	RELEASE DATA
D.B.H. <u>36"</u>	5 YR. PERIODS BEFORE CUT <u>                    </u>
TOTAL HEIGHT <u>96'</u>	2 ND. <u>                    </u>
CROWN CLASS <u>5</u> <u>25' x 25'</u>	1ST CUTTING AFTER CUTTING <u>                    </u>
YEAR AREA CUT <u>5'</u>	1ST <u>                    </u>
D.B.H. BEFORE RELEASE <u>                    </u>	2 ND <u>                    </u>
TOTAL AGE <u>556</u>	3 RD <u>                    </u>
RINGS LAST INCH NOW <u>                    </u>	4 TH <u>                    </u>
WIDTH OF BARK <u>                    </u>	5 TH <u>                    </u>
SLOPE <u>                    </u>	6 TH <u>                    </u>
EXPOSURE <u>9 Ridge-top</u>	7 TH <u>                    </u>
	8 TH <u>                    </u>
	9 TH <u>                    </u>
	10 TH <u>                    </u>

OVER

FORM D-4-1

# INDIVIDUAL TREE GROWTH STUDY

FOREST Elk Cr. Burn NAME                       
 TYPE Pp DATE 7/24/35  
 SITE                      SECTION                      TWP.                       
 SPECIES Pp-DF RANGE                      SCALE 40 links FT. = 1"



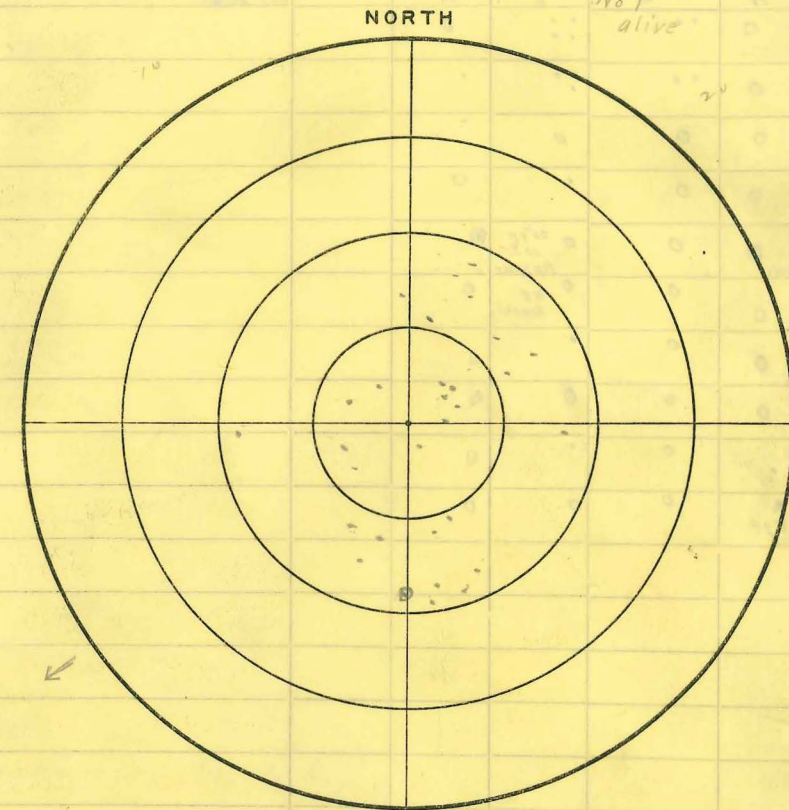
DATA ON TREE STUDIED	RELEASE DATA
D.B.H. <u>32"</u>	5 YR. PERIODS BEFORE CUT <u>                    </u>
TOTAL HEIGHT <u>108'</u>	2 ND. <u>                    </u>
CROWN CLASS <u>3</u> <u>90' x 25'</u>	1ST CUTTING AFTER CUTTING <u>                    </u>
YEAR AREA CUT <u>5'</u>	1ST <u>                    </u>
D.B.H. BEFORE RELEASE <u>                    </u>	2 ND <u>                    </u>
TOTAL AGE <u>120</u>	3 RD <u>                    </u>
RINGS LAST INCH NOW <u>                    </u>	4 TH <u>                    </u>
WIDTH OF BARK <u>                    </u>	5 TH <u>                    </u>
SLOPE <u>                    </u>	6 TH <u>                    </u>
EXPOSURE <u>W</u>	7 TH <u>                    </u>
	8 TH <u>                    </u>
	9 TH <u>                    </u>
	10 TH <u>                    </u>

OVER

FORM D-4-1

# INDIVIDUAL TREE GROWTH STUDY

FOREST Elk Cr. Burn NAME                       
 TYPE Pp DATE 7/24/35  
 SITE                      SECTION                      TWP.                       
 SPECIES Pp RANGE                      SCALE FT. = 1"



DATA ON TREE STUDIED	RELEASE DATA
D.B.H. <u>38"</u>	5 YR. PERIODS BEFORE CUT <u>                    </u>
TOTAL HEIGHT <u>111'</u>	2 ND. <u>                    </u>
CROWN CLASS <u>5</u> <u>20' x 80' M</u>	1ST CUTTING AFTER CUTTING <u>                    </u>
YEAR AREA CUT <u>5'</u>	1ST <u>                    </u>
D.B.H. BEFORE RELEASE <u>                    </u>	2 ND <u>                    </u>
TOTAL AGE <u>210</u>	3 RD <u>                    </u>
RINGS LAST INCH NOW <u>                    </u>	4 TH <u>                    </u>
WIDTH OF BARK <u>                    </u>	5 TH <u>                    </u>
SLOPE <u>                    </u>	6 TH <u>                    </u>
EXPOSURE <u>SW</u>	7 TH <u>                    </u>
	8 TH <u>                    </u>
	9 TH <u>                    </u>
	10 TH <u>                    </u>

OVER

FORM D-4-1



# ASSOCIATION AND RELEASE

TREE OR STUMP NO.	TREES			STUMP DIAM.	REMARKS
	SP	CIES	TOTAL HEIGHT		
1	0	S	0	SE	E
2	0	0	0	SE	0
3	0	S	0	E	0
4	0	S	0	E	0
5	0	SW	0	E	0
6	0	SW	0	E	0
7	0	SW	0	E	0
8	0	S	0	E	0
9	0	S	0	E	0
10	0	S	0	E	0

°Number of tree or stump

Corresponds to number showing graphic location plot on opposite of sheet.

## INSTRUCTIONS

The circle represents a plot around the tree studied. The location of each established tree or stump in the circle should be shown by a dot and number. Do not use a separate series of numbers for trees and stumps. Use a scale of 40' = 1" in open stands and as low as 10' = 1" dense stands.

OGDEN-7-12-28-1,000

# ASSOCIATION AND RELEASE

TREE OR STUMP NO.	TREES			STUMP DIAM.	REMARKS
	SP	CIES	TOTAL HEIGHT		
1	0	S	0	SE	E
2	0	0	0	SE	0
3	0	S	0	E	0
4	0	S	0	E	0
5	0	SW	0	E	0
6	0	SW	0	E	0
7	0	SW	0	E	0
8	0	S	0	E	0
9	0	S	0	E	0
10	0	S	0	E	0

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OGDEN-7-12-28-1,000

# ASSOCIATION AND RELEASE

TREE OR STUMP NO.	TREES			STUMP DIAM.	REMARKS
	SP	CIES	TOTAL HEIGHT		
1	0	S	0	SE	E
2	0	0	0	SE	0
3	0	S	0	E	0
4	0	S	0	E	0
5	0	SW	0	E	0
6	0	SW	0	E	0
7	0	SW	0	E	0
8	0	S	0	E	0
9	0	S	0	E	0
10	0	S	0	E	0

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OGDEN-7-12-28-1,000